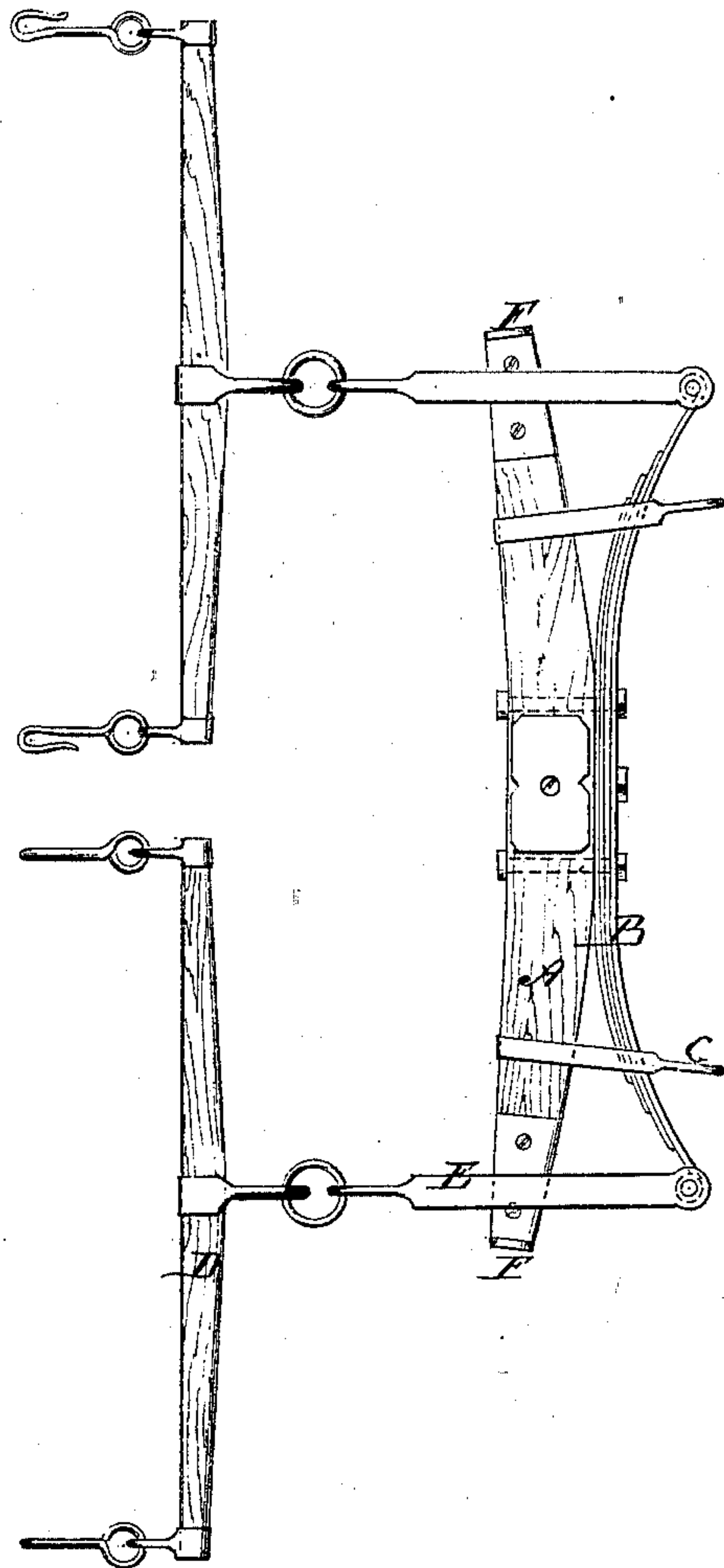


S. L. & J. W. REYNOLDS.

Whiffletree.

No. 113,696.

Patented April 11, 1871.



Witnesses:

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Letters Patent No. 113,696, dated April 11, 1871.

## IMPROVEMENT IN WHIFFLETREES.

The Schedule referred to in these Letters Patent and making part of the same.

### *To all whom it may concern:*

Be it known that we, SAMUEL L. REYNOLDS and JOHN W. REYNOLDS, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Whiffletrees; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, which represents a plan view of a set of whiffletrees provided with our improvements.

Our invention relates to that class of whiffletrees which works against the tension of one or more springs to relieve the strain upon the team in starting heavy loads.

In this class of whiffletrees a semi-elliptic spring is sometimes employed, secured permanently at the center of its convex side to the rear of the wagon-hounds or other fixed part of the vehicle, with its ends attached to rods or bars which extend forward to receive the whiffletrees after passing through guides connected to some fixed portion of the running-gear.

By this arrangement the spring forms the double-tree or evener proper, and is objectionable for the following reasons, to wit:

First, the spring is permanently attached and cannot be removed or shifted from one wagon to another, and as many springs are therefore necessary as there are wagons to be used.

Secondly, the position of the spring cannot be changed with relation to the draft of the team, so that such draft cannot be equalized, as would be the case if the spring were pivoted to the wagon-tongue.

Thirdly, the guide or draft-bars have no lateral play or movement, and must consequently become broken or twisted when a heavily-laden wagon is turned.

Fourthly, the direction of the draft is such, that is to say, above the hounds, that the spring is liable to be twisted from its fastenings.

Our improvements are designed to overcome these objections; and to this end—

They consist in attaching the center of the spring to the rear of a double-tree or evener, which is connected to the vehicle by a king-bolt, so that the double-tree and its attachments can be readily shifted from one vehicle to another, and by turning upon the king-bolt equalize the draft of the team.

In connection with the spring so attached, metal links are pivoted to the ends of the springs, and pass forward, above and below the double-tree, to connect with the whiffletrees.

By this arrangement the strain is exerted upon the

spring equally above and below the double-tree, and the former prevented from being twisted and broken from its fastenings.

The pivoting of the straps to the spring also admits of their lateral movement upon the double-tree, to prevent their breaking when the vehicle is turned.

As a part of the improvements above mentioned metal bands or loops are employed, embracing the evener and spring upon each side the king-bolt, to insure the uniform movement of the spring and prevent the possibility of its being displaced, and further, if necessary, to form points of connection between the vehicle and evener for steadying or evening-chains.

In the accompanying drawing—

A is the double-tree or evener, adapted for attachment to a wagon-tongue by a king-bolt in the usual manner.

B is the semi-elliptic steel spring, firmly secured at its center to the rear edge of the double-tree, with its ends extending in the horizontal plane of the same, but bending backward therefrom.

Near the ends of the evener are secured the guide-loops C C, which project rearward, and embrace the evener and spring, forming guides to steady the latter and prevent its displacement. To their rear ends chains may be attached for connecting the double-tree to the vehicle.

E E are the draft-links, which are pivoted to the ends of the spring, and, passing to the front of the evener above and below the same, are attached to the whiffletrees D.

This connection insures the movement of the spring in the line of the evener, and permits the lateral play of the draft-links when the vehicle is to be turned.

To prevent the links from slipping off, lugs F are secured to the ends of the evener, as shown.

In applying our invention to a single whiffletree, where one horse only is used, the whiffletree itself is provided with the spring and its attachments, and pivoted between the fells of the vehicle in the usual manner, the traces of the harness being connected to the draft-links.

Having thus described our invention,

What we claim as new is—

In combination with the pivoted and removable evener or whiffletree, the spring B, guide-loops C, and pivoted draft-links E, substantially as described, for the purpose specified.

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Witnesses:

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